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Innovation of CB achievement professional English language course in Blackboard

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Abstract

The presented study aims first at depicting learning style differences among a sample group of students of Faculty of Informatics and Management and consequently it introduces some modifications of CB tests of professional English language course. As learning styles are being progressively more incorporated into technology-enhanced learning, it has been inevitable to involve one of the existing learning style models into the process of professional English language courses innovations. Thanks to the fact that more information and details about learning styles have become available, this knowledge can be better applied and integrated into all aspects of educational technology and process. The aim of this paper is to analyze data about learning style variations and frequencies of a group of bachelor students of Management disciplines with respect to the Felder-Silverman learning style model (FSLSM).

The analyses show the most frequent preferences of individual learning style dimensions as well as how the frequency of individual learning style preferences is represented, including the strengths of a particular preference. This information has been processed when a new set of achievement professional English language tests were created in the attempt to improve the students´ language understanding and competences.

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Keywords: Learning styles (LS);Felder-Silverman learning style model (FSLSM);frequency in LS preferences; Index of learning styles (ILS); strength of preferences (strong, moderate, and balanced);achievement tests

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1. Introduction

In order to facilitate academic success, it is important to provide learning experiences that are accessible to all students with all learning preferences. The fact is that if teachers are able to analyze their own teaching techniques as well as the difference and needs of their students, the educational process is likely to become optimized for both students and teachers. This was the main idea behind the process of professional English language e-course modification. With the introduction of Blackboard learning environment at Faculty of Informatics and Management at University of Hradec Kralove there appeared the need to improve and innovate the existing on-line course of Professional English language at the Department of applied linguistics.

First of all there were analyzed data about learning style variations and frequencies of a group of bachelor students of Management disciplines with respect to the Felder-Silverman learning style model (FSLSM). This model was chosen as professor R. M. Felder´s research involves mostly technically orientated students, and thus his Index of learning style seemed to be most appropriate for our student. Felder´s learning styles inventory was administered to students in winter semester 2013/2014. Descriptive statistics identified that participants do vary in their preference for particular learning styles with a great variety of learning style preferences. In this paper, we aim not only to assess the learning style preferences of a chosen group of students of management, but also to suggest relevant changes in the online English language course.

In this paper, we focus on the Felder-Silverman learning style model (FSLSM) (Felder & Silverman, 1988), which is often used in technology-enhanced learning and is designed for traditional learning. Most other learning style models classify learners into a few groups, whereas Felder and Silverman describe the learning style of a learner in more detail, distinguishing between preferences on four dichotomous LS dimensions.

Each of the dimensions (active or reflective, sensing or intuitive, visual or verbal, sequential or global) has parallels in other learning style models. The combinations, however, are unique to Felder's model. The first dimension – active/reflective – is a component of Kolb's learning style, the second dimension – sensing/intuitive – is one of the four dimensions of Jung's theory of psychological types, the third dimension – visual/verbal – is analogous to the visual-auditory-kinaesthetic formulation of modality theory and is rooted in cognitive studies of information processing. The fourth dimension – sequential/global – has numerous references. (Felder, R.M., & Spurlin, J., 2005). (see Fig.1)

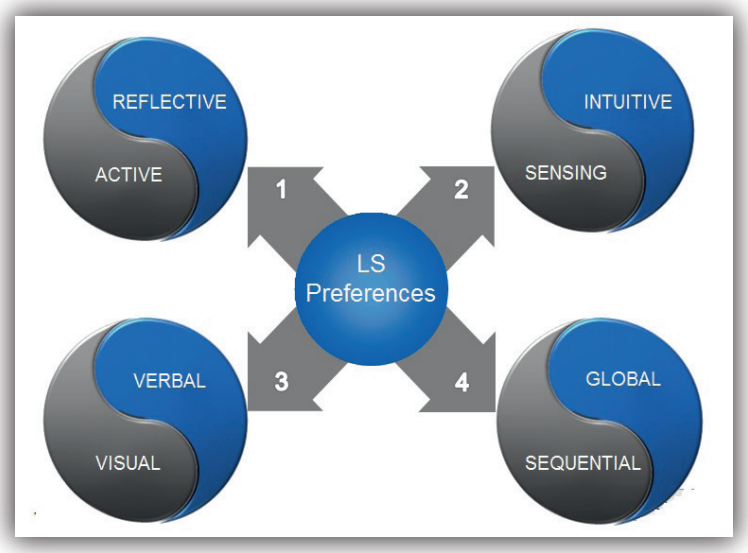

Fig. 1: Dichotomous dimensions of LS preferences

2. Methods

The instrument used in this study to assess learners' learning style preferences was the Index of Learning Styles questionnaire. The Index of Learning Styles is an on-line instrument used to assess preferences on four dimensions (active/reflective, sensing/intuitive, visual/verbal, and sequential/global) of the learning style model formulated by Richard M. Felder and Linda K. Silverman. The ILS is targeted at 11 forced-choice items for each of the four dimensions (for a total of 44 questions). Each item has a possible **a** or **b** response that corresponds to either one of the categories related to the dimension - for example - the active or reflective dimension. The **b** responses are subtracted from the **a** responses to obtain a score that is an odd number between -11 to +11 (Felder & Spurlin, 2005, p.104).

Felder (1993) points out that each of the learning style dimensions are continua and not either/or categories. Therefore, an individual's preference on a given scale (e.g. for sequential or global tendencies) may be strong, moderate, or almost non-existent; may change with time; and may vary from one subject or learning environment to another (Litzinger et al, 2007).

The 44-item questionnaire can be submitted and automatically scored on the Web. After taking the survey on-line, students receive instant results in the form of a profile of their dominant learning styles. (see Fig.2)

We can imagine the ILS result as the four scales of the ILS, with two opposite (dichotomous) categories of each scale. If you score 1 or 3 on both sides (see Fig.2), it means you have a mild or balanced preference for one of the particular LS, if you score 5 or 7 on both sides you have a moderate preference and if your score is 9 or 11 you have a strong preference .

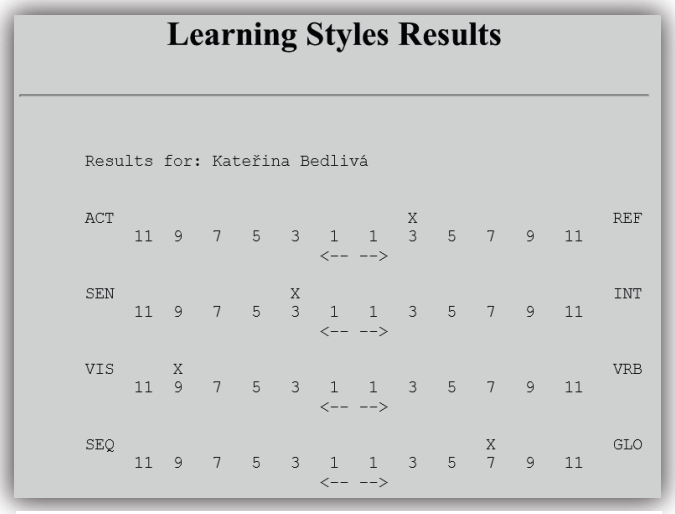

Fig. 2: ILS result – example

In relation to variations of LS preferences we used **A** to identify **the minus** (-5 or-7= moderate preference,- 9 to -11= strong preference) **side of the scale**, representing active, sensing, visual and sequential preferences; **B** to identify **the middle** (-3 or -1 = mild or balanced preference for active, sensing, visual or sequential mode; +1 or +3 mild or balanced preference for reflective, intuitive, verbal or global preference) **part of the scale** representing both modes of the dichotomous LS preferences; and **C** to identify **the plus side of the scale** (+5 or +7 = moderate preference, +9 or +11= strong preference) representing reflective, intuitive, verbal or global mode. This division was used to identify the frequencies as part of the second objective of this paper. (see Fig.3)

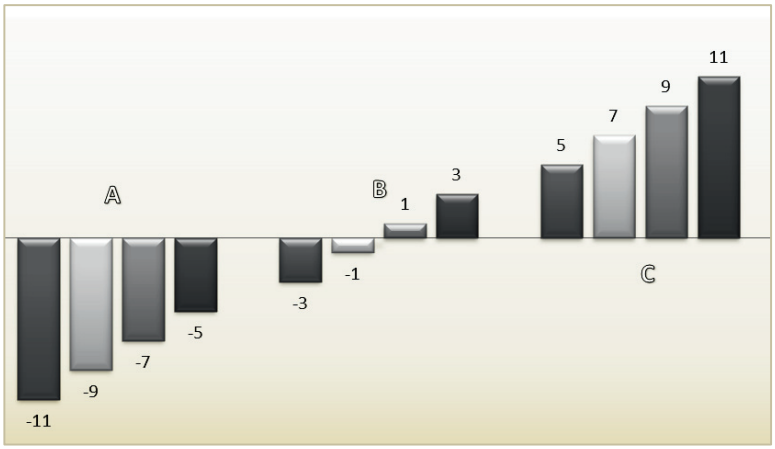

Fig. 3: ILS scale

3. Results and Discussions

The participants in this study were 223 first and third-year college students who majored in two disciplines including Management of Tourism (n=172), and Applied Informatics (n=51).Among the participants, 83 were males and 140 were females. The study was conducted during the first semester of the 2013/14 academic year.

Students who participated in professional English language courses were asked to take part in the survey and fill out the Index of Learning Styles questionnaire which was uploaded to the on-line English language course in Blackboard LMS. It took the participants an average of 50 minutes to complete the questionnaire.

Figure 4 shows the percentages of participants displaying their preference to Active-Reflective, Sensing-Intuitive, Visual-Verbal, and Global-Sequential dichotomous learning style dimensions. A large number of students share preference to Sensing (185 students – 83%) and Visual (172 students – 80%) dimensions of learning style. There are, however, considerably large groups of students displaying preference to Sequential (131 students – 59%) and Active (125 students – 56%) dimensions of learning style (LS). Another relatively large group is the one containing students with Reflective (98 – 44%) and Global (92 – 41%) preferences. Verbal (44 - 20%) and Intuitive (38 – 17%) students belong to a minority.

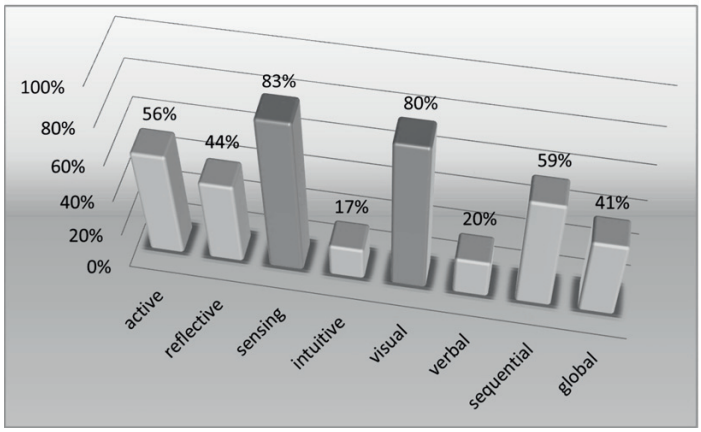

Fig. 4: General overview of LS preferences in %

The findings in the above graph indicate that the participants vary in their preferences for particular learning styles; this affects their learning behavior in the way they perceive, interact, and respond to the learning

environment. It is important for teachers to examine the variations in their students with regard to their learning styles, because the information about a learner's preference can help teachers become more sensitive to the differences different students bring to the classroom (Felder & Spurlin, 2005).

In an attempt to reveal the most commonly repeated patterns (frequencies) of our students' preferences we used the ILS scale (see Figure 4). The results clearly proved that the majority of students belong to a BBAB or BBBB pattern, which means that a large number of students (86%) displayed mild or balanced preferences for the left and right sides of the LS Results scale (there were 84 frequencies which involved variations of the B and A sides of the scale). Only 24% of the students were identified as having moderate or strong preference for the right side of the LS Result scale, representing reflective, intuitive, verbal or global preference mode. (see Fig.5)

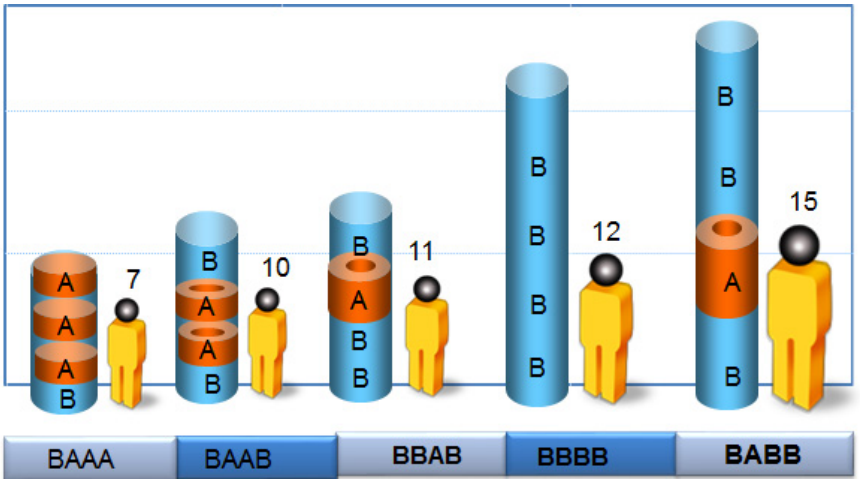

Fig. 5: LS Results preference frequencies

In other words, only 24% of the students show a clear preference for only one learning style pole of a reflective, intuitive, verbal or global dimension and could achieve optimal learning results if only the opposite learning environment were provided.

As professor R. Felder claims in his e-mail conversation to the paper author:"The criteria for mastery of English as a second language—proficiency in vocabulary, grammar, syntax, and style in writing and speaking—are the same for students with every learning style. The function of the test is to see how well each student meets those criteria, regardless of his or her style.

Where learning styles help is with design of the instruction given to students to prepare them to take tests. Staying with English as a second language, I imagine that most instruction is highly verbal—lectures, readings, and conversations. My hypotheses would be that (a) verbal learners taught in this traditional manner would on average do better on standardized tests than visual learners, and (b) if much more visual content were included to provide a good balance of visual and verbal presentation—pictures, videos, cartoons, role playing activities described by English words—the visual learners would do better on the tests. „

Based on the ideas and hypotheses mentioned above, after identifying the students' frequencies and variations of LS preferences, the author started to modify the professional English language course in the Faculty of Informatics and Management LMS - Blackboard learning environment (BB). Majority of verbal instructions have been accompanied by visual instructions, so that 80% of visual students (see Fig: 4) could use this advantage and improve their language competency (see Fig. 6)

At the beginning of 2013/2014 winter semester 223 students of Management and Applied Informatics passed entranced test C1 level containing C1 level competence exercises. The test was printed out (paper based) which means that all instructions were 100% verbal. The overall result of the test was as follows. 40% (n=91) of students passed successfully reaching 75%.The achievement test held at the end of summer semester 2014 proved the hypothesis that visual students will be better on the test after introduction of sufficient number of visual instructions

into the BB course. Out of 223 students passing the final achievement English language test 184 students passed the test with the result reaching over 75%.

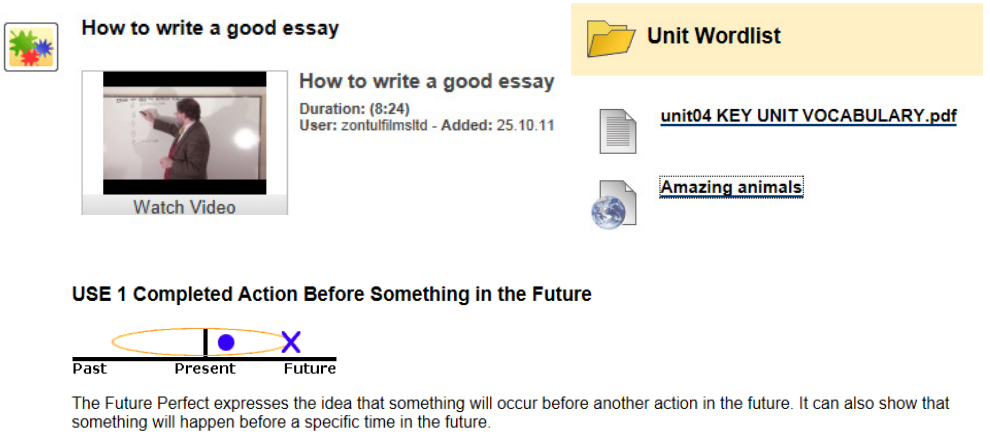

Fig. 6: Examples of visual instructions in BB

4. Conclusion

The figures given above prove that if there is majority of visual students in the class, it is highly advisable to alter and modify the preparation materials and on-line courses so that they contain maximum of visual instructions (videos, pictures, graphs, cartoons,). The latest research proves that students cannot be strictly classified as having preference for a single learning style, since they share a great variety of learning style preferences and are well balanced in the environment featuring both styles of a particular dimension. (Milkova, 2012)On the other hand, there is a small group of students (24%) who are moderately or strongly limited to one of the right side preferences of the LS scale, which can affect their flexibility in the learning environment. Further research, within the Specific Research Project in the summer and winter terms of 2014, in the area of evaluation of learning styles will continue as there are some more questions to be answered. There is a need to address the question of how to create synergy between effective teaching strategies and brain learning rules, which are closely connected with the learning style models. (Hubalovsky, 2013)The author is convinced that continuous research in the area of LS and preferences is worthy as new technology and corresponding teaching styles will consequently result in a higher standard of teaching and learning. Helping students to identify the ways they learn best and providing them with opportunities to use all their senses and different intelligences is one of key challenges in the teaching process.

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